ABSTRACT OF THE DISCLOSURE

The invention relates to a process for the preparation of glyceraldehyde acetonide by oxidation of 2,2-dimethyl-1,3-dioxolane-4-methanol by an oxidizing agent, wherein the 2,2-dimethyl-1,3-dioxolane-4-methanol is oxidized by an organic N-chloro compound in the presence of an inert base and TEMPO or a TEMPO-derivative. In one embodiment of the invention enantiomerically enriched glyceraldehyde acetonide is prepared from the corresponding enantiomerically enriched 2,2-dimethyl-1,3-dioxolane-4-methanol. Preferably, the organic N-chloro compound is trichloroisocyanuric acid or dichlorodimethyl hydantoin. Preferably, the inert base is sodium acetate or sodium bicarbonate.